



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/573,738	03/28/2006	Richard M. Miller-Smith	348162-982780	2271
94518 7590 05/03/2011 DLA PIPER LLP (US) 2000 UNIVERSITY AVENUE EAST PALO ALTO, CA 94303				
EXAMINER BURD, KEVIN MICHAEL				
ART UNIT 2611		PAPER NUMBER		
MAIL DATE 05/03/2011		DELIVERY MODE PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary**Application No.**

10/573,738

Applicant(s)

MILLER-SMITH, RICHARD M.

Examiner

Kevin M. Burd

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 April 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6-13 and 15-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-13 and 15-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-940)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB-08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

1. This office action, in response to the amendment and request for continued examination (RCE) filed 4/18/2011, is a non-final office action.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/18/2011 has been entered.

Response to Arguments

3. Applicant's arguments filed 4/18/2011 have been fully considered but they are not persuasive. Though the amendment has added additional limitations to claims 1 and 10, the previous prior art address these limitations. The response to arguments stated in the final office action, mailed 11/16/2010, and the previous rejection of claims 1 and 10 both address the amended limitations. As stated in page 137, Zhou (IDCT) discloses the DCT transform should have a precision of 8 bits in intra-coding and 9 bit in motion compression. Page 137 also discloses, the IDCT output is clipped to a range of [-255,255]. This clipped range is reduced from the ranges discussed on page 141, right column. Page 141, left column, discloses the quantizer used to quantize the DCT-

coefficients of an intra-block is different from that of an inter-block. An intra-block has its values ranged from 0 to 255 while the values of the inter-block are in the interval [-255,255].

Therefore, Zhou discloses selecting between the intra-block (8 bit inverse transform implementation) and the inter-block (9 bit inverse transform implementation). The transform is then performed.

4. Applicant has amended claim 19 to overcome the previous rejection under 35 USC 101.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-4, 6-13 and 15-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhou (US 2002/0164081) in view of Zhou et al "IDCT output range before clipping in MPEG video coding", Signal Processing, Image Communication, Elsevier Science Publishers, Amsterdam, NL, vol. 11, no. 2, December 1997, pages 137-145.

Regarding claims 1-3, 7, 8, 10-12, 16, 17 and 19, Zhou (US 2002/0164081) discloses a method shown in figure 4. DCT-based video compression such as MPEG1 or MPEG2 is decomposed into macroblocks and the macroblock comprises 8 x 8 blocks

(paragraph 0004). DCT is performed on the macroblock. A sum of the coefficients is computed. The sum is compared to a threshold (paragraph 0015 and figure 4) which is a critical component of the quantization (paragraph 0015). An IDCT is then conducted. Zhou (US 2002/0164081) does not disclose determining the number of bits required to represent an output value. Zhou (IDCT) discloses in the DCT coding of 8-bit image material, e.g. in MPEG coding, the input of the DCT transform should have a precision of 8 bit in intra-coding and 9 bit in motion compensated predictive coding (section 1). Zhou (IDCT) also discloses in MPEG video coding, IDCT is carried out on the intra-block and the inter-block. As a consequence of the quantization and inverse quantization in MPEG coding and decoding, the precision of the IDCT output and the internal IDCT will be larger than the necessary precision of the DCT input (page 137). An intra-block has its values ranged from 0 to 255, while the values of an inter-block are in the interval -255 to 255 (page 141, left column). Therefore, Zhou (IDCT) determines the number of bits required to represent the data. The combination of Zhou (US 2002/0164081) and Zhou (IDCT) discloses each of the elements claimed although not in a single prior art reference. It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the method and apparatus of Zhou (IDCT) into the method and apparatus of Zhou (US 2002/0164081) and that in combination, each element merely performs the same function done separately. The results of the combination are predictable.

Regarding claims 4 and 13, Zhou (IDCT) discloses in the DCT coding of 8-bit image material, e.g. in MPEG coding, the input of the DCT transform should have a

precision of 8 bit in intra-coding and 9 bit in motion compensated predictive coding (section 1). Zhou (IDCT) also discloses in MPEG video coding, IDCT is carried out on the intra-block and the inter-block. An intra-block has its values ranged from 0 to 255, while the values of an inter-block are in the interval -255 to 255 (page 141, left column). Therefore, Zhou (IDCT) determines the number of bits required to represent the data.

Regarding claims 6 and 15, Zhou (IDCT) discloses additional bit precision is used to process the IDCT (right column on page 144 and page 145).

Regarding claims 9 and 18, Zhou (IDCT) discloses the IDCT output will have a maximum value of 517 (page 144).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin M. Burd whose telephone number is (571) 272-3008. The examiner can normally be reached on Monday - Friday 9 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David C. Payne can be reached on (571) 272-3024. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kevin M. Burd/
Primary Examiner, Art Unit 2611
4/25/2011